THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 49

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRUCE E. GRAY

Appeal No. 95-0005
Application 08/141,412[1]

ON BRIEF

Before KRASS, FLEMING and LEE, Administrative Patent Judges.

LEE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 44-50. All other claims have been canceled. No claim has been allowed.

[1] Application for patent filed October 22, 1993. According to appellants, this application is a continuation of application 07/996,515, filed December 16, 1992, which is a continuation of application 07/691,680, filed April 25, 1991, which is a continuation of application 07/627,544, filed December 10, 1990, which is a continuation of application 07/262,799, filed October 26, 1988, which is a continuation of application 06/848,287, filed April 4, 1986 (now U.S. patent no. 4,782,341), which is a continuation of application 06/510,753, filed July 1, 1983 (now U.S. patent no. 4,652,877).

References relied on by the Examiner

Tolson	3,337,992	Aug. 29, 1967
White	4,132,981	Jan. 02, 1979
Lapsley (UK) (United Kingdom)	1,253,826	Nov. 17, 1971

The Rejection on Appeal

Claims 44-50 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over Lapsley, Tolson, and White.

The Invention

The invention is directed to a method and apparatus for determining the quantity of utility consumed during a given time period by a customer. Claims 44, 47 and 50 are the only independent claims, of which claim 44 is drawn to a method and claims 47 and 50 are drawn to an apparatus. All of the claims specifically require a single inductive coupling for bidirectional communication of signals and data between an interrogator and a meter transponder. While method claim 44 does not recite the words "single inductive coupling," it explicitly recites a primary winding and a secondary winding, and according to claim 44, the signal from the interrogator to the transponder is induced from the primary winding to the

secondary winding, and

the signal from the transponder to the interrogator is induced from that same secondary winding in the transponder to the primary winding in the interrogator. All of the claims require that a clock signal is transmitted from the interrogator to the transponder, and that utility consumption data is determined in the transponder and modulated over the transmitted clock signal for transmission back to the interrogator. Claims 47 and 50 include various means-plus-function clauses which must be interpreted in accordance with 35 U.S.C. § 112, sixth paragraph.

Representative claims 44 and 47 are reproduced below:

> 44. A method for determining the quantity of utility consumed during a given time period by a utility customer, comprising:
>
> (a) providing a meter for making a measurement of the amount of utility passing therethrough;
>
> (b) providing a register adapted to supply electrical indications of said measurement;
>
> (c) providing a meter transponder coupled to said register for determining electrical manifestations of the measurement from said indications obtained from said register, said

meter transponder being electrically connected to a secondary winding;

(d) allowing passage of the utility through the meter to provide the measurement;

(e) determining the electrical manifestations of the measurement in the meter transponder;

(f) providing a portable interrogator having a primary winding;

(g) bringing the portable interrogator to a position in relation to the meter transponder whereby the secondary winding and the primary winding are disposed such that a signal in either would induce the same signal in the other by inductive coupling;

(h) actuating the portable interrogator and transmitting an electrical signal having a clock pulse component, from the portable interrogator to the meter transponder, by placing the electrical signal on the primary winding whereby it is induced in the secondary winding, thereby activating the meter transponder and causing the meter transponder to obtain said electrical manifestations, and modulate said electrical signals with respect to said clock pulse component, thereby generating a signal representative of the electrical manifestations of the measurement available to the interrogator and placing the signal on the secondary winding; and

(i) determining from the signal the measurement of utility represented thereby.

47. A utility data gathering system comprising:

an interrogator comprising;

means for transmitting an interrogation signal across a single inductive coupling permitting bidirectional communication between a meter transponder and the interrogator, said interrogation signal including a clock signal,

means for receiving signals representative of utility consumption data,

a meter transponder comprising;

register means coupled to a utility meter, for providing consumption signals representing utility consumption data,

signal processing means comprising;

means for accessing said register means to obtain said consumption signals, means for modulating said consumption signals in accordance with said clock signal to generate consumption signals representing said utility consumption data, means for transmitting said consumption signals to said interrogator across said single inductive coupling,

whereby said interrogator means for receiving further includes means for demodulating said consumption signals to determine said utility consumption data.

Opinion

We do not sustain the rejection of claims 44-50 as being unpatentable over Lapsley, Tolson, and White, as is stated and explained by the examiner on this record. This reversal,

however, should not be construed as an indication that the claims are patentable over other combinations of prior art or even the same references in a rejection based on different rationale.

Claim 47 recites several limitations in means-plus-function language, including (1) means for transmitting an interrogation

signal across a single inductive coupling permitting bidirectional communication between a meter transponder and an inter-rogator, (2) register means coupled to a utility meter, for providing consumption signals representing utility consumption data, (3) means for accessing said register means to obtain said consumption signals, (4) means for modulating said consumption signals in accordance with said clock signal [from the inter-rogator], and (5) means for transmitting said consumption signals to said interrogator across said single inductive coupling. The various means (3), (4), and (5) are defined as being within a meter transponder. Similarly, claim 50 recites several means-plus-function limitations, including

a register means, an identification mean, and means for repeatedly accessing said register means and said identification means, means for modulating the accessed signals, means for transmitting the modulated signals back to the interrogator through a single inductive coupling. The access means, modulating means, and transmitting means are contained in a meter transponder separate from the interrogator which communicates with the transponder through the single inductive coupling. According to 35 U.S.C. § 112, sixth paragraph, such means-plus-function features must be construed to cover the corresponding structure, materials, or acts, disclosed in the appellant's specification, and their equivalents, for performing the respective functions. In re Donaldson Co., Inc., 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848 (Fed. Cir. 1994) (in banc).

The examiner has not made any meaningful analysis under 35 U.S.C. § 112, sixth paragraph, in comparing the appellant's claimed invention with the applied prior art. Lapsley discloses a system having individual conductive paths from one

end to another whose connections are completed only if the associated measuring index wheel is in a certain corresponding position. It does not appear that such a system is similar to the appellant's disclosed invention, wherein a transponder first determines the measurements, and then transmits the determined measurements back to an interrogator through a single inductive coupling. The examiner has failed to analyze each claimed "means" on its own merit based on the appellant's disclosed embodiments, and also overly generalized the appellant's claimed invention. For instance, the examiner concluded that there is no invention in

substituting wireless means for a wired path (answer at page 5). However, he overlooked that the information being transmitted should be the same and further that the device which does the transmission should be the same. Each claimed means must be properly and individually accounted for. That, the examiner has failed to do. As for the reliance on Tolson, the appellant is correct that it discloses only wireless communication of command signals in one direction. It would

not have reasonably suggested a single inductive coupling for communicating between the interrogator and the transponder. In that regard, we have found that White (column 7, lines 23-28) discloses that inductive coupling may be used to send information back and forth between an interrogator and a memory system which stores utility measurement data. But the examiner did not rely on White for that purpose, and White does not disclose that the interrogator sends a clock signal to a transponder and that the transponder modulates the measurement data over the clock signal for transmission back to the interrogator through the same single inductive coupling. The "single inductive coupling" claimed by the appellant is more specific than the general inductive coupling teaching of White.

In Lapsley, there is a group of signal input lines 35 and a group of signal output lines 31. Depending on the state of the measurement index wheels, different electrical contacts are made in the signal path and thus different output lines will carry a corresponding output. It is not seen how such a system includes a transponder which first "determines" the

measurements from the meter and then "transmits" them to an interrogator. It is also not seen how any separate transmission of signals is initiated other than the original application of the input signal.

As for method claim 44, much of our discussions above concerning the over generalization of the appellant’s claimed invention is applicable. For example, claim 44 requires that the same pair of primary and secondary windings is used for bidirectional communication between the interrogator and the transponder. Claim 44 requires that the transponder first "determine" the utility measurement data, modulate the determined data over a clock signal sent by the interrogator, and placing the modulated signal back onto the secondary winding for inductive coupling to the primary winding in the interrogator. These features of the appellant’s claimed invention have not been
adequately specifically account for. We agree with the appellant that it is unreasonable to regard Lapsley as disclosing or suggesting a transponder having the signal determining and processing capabilities of the appellant’s claimed transponder. It is not enough that in Lapsley’s

system, the measurements are ultimately somehow determined somewhere. The determination must be done in a transponder which in turn communicates the results to an interrogator. Also, the prior art must reasonably suggest the specific manner of communication claimed by the appellant.

Responding to the appellant's argument that the claimed invention is not mechanical as is shown in Lapsley, the examiner states (answer at 7) that to replace mechanical registers and scan means with electronic chips would not give unexpected results. However, The mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). Moreover, the examiner may not properly account for the myriad of specific differences between the claimed invention and the disclosed
system of Lapsley by simply noting that one system is mechanical and the other electronic. That is over generalizing the claimed invention. Even if we assume that an electronic version of Lapsley's system would be desirable, the

examiner has failed to explain why the particular electronic system claimed by the appellant would have been obvious.

The examiner has failed to set forth a reasonable case of prima facie obviousness. The examiner's explanations are largely incomplete and do not focus on the specifics of what has been claimed. Also, the requirements of 35 U.S.C. § 112, sixth paragraph, have evidently been ignored. For these reasons, we do not sustain the rejection of claims 44-50 under 35 U.S.C. § 103 as being unpatentable over Lapsley, Tolson, and White.

Conclusion

The rejection of claims 44-50 under 35 U.S.C. § 103 as being unpatentable over Lapsley, Tolson, and White is reversed.

REVERSED

ERROL A. KRASS Administrative Patent Judge	)
MICHAEL R. FLEMING Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND

) INTERFERENCES
)
JAMESON LEE)
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